

SYSTEM FOR CONTROLLING BRAKE PULSING  
AT VEHICLE NATURAL VIBRATION FRQUENCIES

ABSTRACT OF THE DISCLOSURE

0036 A system is provided for controlling automatic brake systems to avoid pulsing vehicle brakes at certain natural vibration frequencies of the vehicle's mechanical systems such as a powertrain and driveline. The natural vibration frequencies of the vehicle's systems are determined and correlated with a range of possible braking regimes implemented by an on-board automatic brake control, such as an anti-lock braking (ABS) system. A proposed, normally appropriate ABS braking response to a sudden braking condition is either modified, accelerated or delayed when the proposed response is deemed likely to excite a vehicle natural frequency. The system improves ABS operation in vehicles having high effective inertia powertrains, such as those used in hybrid electric vehicles.